

PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY

To:

see form PCT/ISA/220

PCT

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**
(PCT Rule 43*bis*.1)

Date of mailing
(day/month/year) see form PCT/SA210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/JP2004/008686

International filing date (day/month/year)
15.06.2004

Priority date (day/month/year)
23.06.2003

International Patent Classification (IPC) or both national classification and IPC
B60K41/00, B60K6/02

Applicant
TOYOTA JIDOSHA KABUSHIKI KAISHA

1. This opinion contains indications relating to the following items:

- | | |
|--|--|
| <input checked="" type="checkbox"/> Box No. I | Basis of the opinion |
| <input checked="" type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> Box No. VIII | Certain observations on the international application |

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/SA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



European Patent Office - Gitschiner Str. 103
D-10958 Berlin
Tel. +49 30 25901 - 0
Fax: +49 30 25901 - 840

Authorized Officer _____

Cālāmar, G

Telephone No. +49 30 25901-505



10/559828

LAP8 Rec'd PCT/PTO 06 DEC 2005

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

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Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

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Box No. II Priority

1. ☒ The following document has not been furnished:

☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V Reasoned statement under Rule 43bis.1(a)(I) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)

Yes: Claims 7-9

No: Claims 1-6,10-13

Inventive step (IS)

Yes: Claims

No: Claims 1-13

Industrial applicability (IA)

Yes: Claims 1-13

No: Claims

2. Citations and explanations

see separate sheet

**WRITTEN OPINION OF THE
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AUTHORITY (SEPARATE SHEET)**

International application No.

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Re Item V.

- 1 The following document is referred to in this communication:
D1: EP0983894 A (ROVER GROUP) 8 March 2000 (2000-03-08)
- 2 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claims 1 and 10 is not new in the sense of Article 33(2) PCT. Document D1 discloses (the references in parenthesis applying to this document):

2.1 With respect to claim 1, D1 discloses:

A hybrid vehicle driven with power from a motor and an internal combustion engine, where the motor is capable of outputting power to a drive shaft linked with an axle (Fig.1, Claim 9), said hybrid vehicle comprising:
a vehicle speed sensor that measures a vehicle speed (Claim 1);
a target vehicle speed setting module that sets a target vehicle speed for a constant speed drive, in response to a driver's setting action (22); and
a drive control module that, in the case of no setting the target vehicle speed by the target vehicle speed setting module, sets a vehicle drive command value in response to the driver's accelerator step-on action, refers to a non-linear setting map to set a vehicle driving force corresponding to the vehicle drive command value, and drives and controls the motor and the internal combustion engine to drive said hybrid vehicle with the setting of the vehicle driving force ([0011], implicit),
while in the case of setting the target vehicle speed by said target vehicle speed setting module, said drive control module sets the vehicle drive command value, based on the vehicle speed measured by the vehicle speed sensor and the target vehicle speed, so as to drive said hybrid vehicle at the target vehicle speed, setting the vehicle driving force corresponding to the vehicle drive command value (Claim 12), in order to have a higher linearity than that of the vehicle driving force set by a non-linear portion of the non-linear setting map with respect to at least part of the vehicle drive command value equivalent to the non-linear portion, and driving and controlling the motor and the internal combustion engine to drive said hybrid vehicle with the setting of the vehicle driving force.

2.2 The same applies mutatis mutandis to claim 10.

3 The application does not meet the requirements of Article 6 PCT, because claims 1-6 and 10-13 are not clear.

3.1 With respect to claim 1, the expression "in order to have a higher linearity than that of the vehicle driving force set by a non-linear portion of the non-linear setting map with respect to at least part of the vehicle drive command value equivalent to the non-linear portion, and driving and controlling the motor and the internal combustion engine to drive said hybrid vehicle with the setting of the vehicle driving force" is not clear.

Is not clear how to have a driving force with "a higher linearity than that of the vehicle driving force set by a non-linear portion of the non-linear setting map". Is not clear in this formulation how can anything have "a higher linearity" than something which is already defined as "non-linear".
A function may basically be linear or non-linear but not "more or less linear".
It is further unclear what "a part of the vehicle drive command value equivalent to the non-linear portion" exactly defines.

3.2 With respect to claim 2 is not clear what practically is it defined by "a negative zone, a dead zone and a positive zone".

3.3 Referring to claim 3 is not clear how "a non-linear setting map linearly increases".

3.4 With respect to claim 4 is unclear how a linear setting map has "a higher linearity than the non-linear setting map".

3.5 With regard to claim 5 is not clear what is practically defined by "a negative zone, a dead zone and a positive zone".
It is further unclear what the applicant means by "the linear setting map has a negative zone which has a higher fraction, a dead zone which is kept substantially equal to 0 and has a lower fraction, compared with the fractions of the negative zone and the dead zone in the non-linear setting map".

3.6 Regarding claim 6 is not clear how "the non-linear setting map and the linear setting map linearly increase the vehicle driving force".

- 3.7 Referring to claim 10 the following formulation is unclear: "referring to a non-linear setting map to set a vehicle driving force corresponding to the vehicle drive command value, which is set in said step (a) (that means when setting the drive command value in response to a driver's accelerator step-on action), **while** setting the vehicle driving force corresponding to the vehicle drive command value, which is set in said step (b) (that means setting a target vehicle speed for a constant speed drive)".

It seems that in this case the vehicle's speed is set up by both the cruise control section and the driver's acceleration step-on action at the same time.

It is further unclear in claim 10: "to have a higher linearity with respect to part of the vehicle drive command value corresponding to a non-linear portion of the non-linear setting map". Here is unclear how the drive command value can have a higher linearity than a value corresponding to a non-linear portion of a setting map.

- 3.8 With respect to claim 11 is unclear what is practically defined by "a negative zone, a dead zone and a positive zone".

Further in claim 11 is stated that "when the vehicle drive command value is set in said step (b) (that is constant speed) said step (c) (which is unclear in claim 10) sets the vehicle driving force according to the non-linear setting map (whereby non-linear setting map is used in case of driver's accelerator step-on action)". Similar to claim 10 is also here rendered the idea that the vehicle's speed is set up by both the cruise control section and the driver's acceleration step-on action at the same time.

Moreover is unclear to which "preset opening" the applicant refers when comparing the drive command value and what exactly is meant when stating that the opening is included in the dead zone.

It is as well unclear "while correcting the vehicle drive command value, which is less than the preset opening". At line 23 the drive command value is defined as "not less than a preset opening".

- 3.9 Regarding claim 12 the expression "a higher linearity than the non-linear setting map" is unclear.

- 3.10 Referring to claim 13 is not clear what is practically defined by "a negative zone, a dead zone and a positive zone".

It is further unclear what the applicant means by "the linear setting map has a

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negative zone which has a higher fraction, a dead zone which is kept substantially equal to 0 and has a lower fraction, compared with the fractions of the negative zone and the dead zone in the non-linear setting map".

- 4 In the letter of reply it should be avoided to file amendments which introduce subject-matter extending beyond the content of the application as filed, contrary to Article 19(2) PCT.